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What is Claimed:

- A method of treating lymphoma, ovarian cancer, colorectal cancer, or gastric cancer comprising administering an effective amount of Mesna to a patient with lymphoma, ovarian cancer, colorectal cancer or gastric cancer.
- 2. A method of reducing the effective dose of an anticancer agent comprising administering a redox clamping agent in conjunction with an anti-cancer agent.
- 3. The method of claim 2 wherein the anticancer agent is Mesna.
- 4. A method of treating cancerous tumors comprising administering an effective dose of an anti-cancer agent in conjunction with a redox clamping agent, wherein the redox clamping agent acts as a chemoenhancer or a chemosensitizer.